

REMARKS

This application has been carefully reviewed in light of the Office Action dated December 31, 2007. Claims 1 to 10 and 12 are in the application. Claims 1, 5, 9, 10 and 12 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 1, 2, 5 to 10 and 12 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,525,888 (Toya) in view of U.S. Patent No. 5,631,677 (Horigome), and Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) over Toya in view of Horigome and further in view of U.S. Patent No. 6,563,766 (Nakamiya). Reconsideration and further examination are respectfully requested.

Claims 1, 9 and 12

The invention of independent Claims 1, 9 and 12 generally concerns an electric charging apparatus for holding and charging a secondary battery. The electric charging apparatus is attachable to a printer that can be driven with the secondary battery. Among many features, Claims 1, 9 and 12 include the features of displaying a battery residual capacity of the secondary battery based on residual capacity information, wherein the residual capacity of the secondary battery is detected by the printer based on an electric power being supplied from the secondary battery to the printer via a terminal of the electric charging apparatus.

Referring specifically to claim language, amended independent Claim 1 is directed to an electric charging apparatus for holding and charging a secondary battery, the electric charging apparatus being attachable to a printer that can be driven with the secondary battery while the electric charging apparatus is attached to the printer. The

electric charging apparatus includes a terminal configured to supply electric power from the secondary battery held in the electric charging apparatus to the printer to which the electric charging apparatus is attached, and reception means for receiving, from the printer, residual capacity information corresponding to a battery residual capacity of the secondary battery. The electric charging apparatus further includes display means for displaying the battery residual capacity of the secondary battery, and display control means for causing the display means to display the battery residual capacity of the secondary battery based on the residual capacity information received by the reception means. The residual capacity of the secondary battery is detected by the printer based on the electric power being supplied via the terminal from the secondary battery to the printer.

Amended independent Claim 9 is directed towards a method generally in accordance with the apparatus of Claim 1.

Amended independent Claim 12 is directed towards an apparatus generally in accordance with that of Claim 1, but includes additional features. Specifically, Claim 12 is directed to an electric charging apparatus for holding and charging a secondary battery, the electric charging apparatus being attachable to a printer that can be driven with the secondary battery while the electric charging apparatus is attached to the printer. The electric charging apparatus includes a terminal configured to supply electric power from the secondary battery held in the electric charging apparatus to the printer which the electric charging apparatus is attached, and a communication unit configured to perform communication with the printer. The electric charging apparatus further includes a display unit configured to display a battery residual capacity of the secondary battery, and a display control unit configured to, when residual capacity information corresponding to the battery

residual capacity of the secondary battery is received from the printer via the communication unit, display the battery residual capacity on the display unit based on the residual capacity information. The electric charging apparatus also includes a control unit configured to control electric charging of the secondary battery in accordance with the residual capacity information. The battery residual capacity of the secondary battery is detected by the printer based on the electric power being supplied via the terminal from the secondary battery to the printer.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of the present invention, and in particular, is not seen to disclose or to suggest at least the features of displaying a battery residual capacity of a secondary battery based on residual capacity information, and a printer detecting the residual capacity of the secondary battery based on electric power supplied from the secondary battery to the printer via a terminal of an electric charging apparatus.

Toya merely discloses that a battery charger holds a battery pack for supplying power to electronic equipment to which it is attached and charges the battery pack. See Toya, column 2, lines 20 to 25. The battery charger includes an LED display 36 to indicate charging or completion of charging. See Toya, Figures 2 and 3 and column 4, lines 28 to 30. The battery charger computes a remaining battery pack capacity based on measured battery pack discharge current, sends the battery pack remaining capacity to a portable telephone, and the portable telephone computes and displays a remaining telephone conversation time based on the remaining capacity. See Toya, column 5, lines 16 to 27. However, Toya is not seen to disclose that a printer detects a residual capacity of a secondary battery based on electric power supplied from the secondary battery to the

printer via a terminal of an electric charging apparatus, and that the electric charging apparatus displays the battery residual capacity of the secondary battery based on the residual capacity information.

Horigome merely discloses that a printing apparatus is capable of being driven by a battery, and that the printing apparatus can charge the battery while the occurrence of a memory effect is suppressed. See Horigome, Abstract. The printing apparatus monitors battery capacity during a printing operation, and detects battery voltage in an interval of time in which a drop in battery voltage is largest and controls operation of printing depending upon the results of detection. See Horigome, column 6, lines 36 to 44. However, Horigome is not seen to disclose that a printer detects a residual capacity of a secondary battery based on electric power supplied from the secondary battery to the printer via a terminal of an electric charging apparatus, and that the electric charging apparatus displays the battery residual capacity of the secondary battery based on the residual capacity information.

In addition, Nakamiya has been reviewed and is not seen to cure the deficiencies of Toya and Horigome.

Therefore, the applied art, alone or in combination, is not seen to disclose or suggest at least the features of displaying a battery residual capacity of a secondary battery based on residual capacity information, and a printer detecting the residual capacity of the secondary battery based on electric power supplied from the secondary battery to the printer via a terminal of an electric charging apparatus.

Claims 5 and 10

The invention of independent Claims 5 and 10 generally concerns a printer, to which an electric charging unit for holding and charging a secondary battery is attachable, and that can be driven with electric power from the secondary battery while the electric charging unit is attached to the printer. Among many features, Claims 5 and 10 include the feature of detecting a battery residual capacity of a secondary battery held in an electric charging unit based on electric power supplied from the secondary battery, in a state where a consumption power of the printer is approximately constant.

Referring specifically to claim language, amended independent Claim 5 is directed to a printer, to which an electric charging unit for holding and charging a secondary battery is attachable, and that can be driven with electric power from the secondary battery while the electric charging unit is attached to the printer. The printer includes reception means for receiving electric power supplied from the secondary battery held in the electric charging unit to which the printer is attached, and residual capacity detection means for detecting a battery residual capacity of the secondary battery held in the in the electric charging unit based on the electric power received by the reception means, in a state where a consumption power of the printer is approximately constant. The printer also includes residual capacity transmission means for transmitting, to the electric charging unit, residual capacity information corresponding to the battery residual capacity detected by the residual capacity detection means.

Amended independent Claim 10 is directed to a method generally in accordance with the apparatus of Claim 5.

The applied references, alone or in any permissible combination, are not seen to disclose or suggest the features of Claims 5 and 10, and in particular, are not seen

to disclose or to suggest at least the feature of a printer detecting a battery residual capacity of a secondary battery held in an electric charging unit based on electric power supplied from the secondary battery, in a state where a consumption power of the printer is approximately constant.

As discussed above, Toya and Horigome are not seen to disclose a printer detecting the residual capacity of the secondary battery based on electric power supplied from the secondary battery to the printer via a terminal of an electric charging apparatus. Accordingly, Toya and Horigome are also not seen to disclose a printer detecting a battery residual capacity of a secondary battery held in an electric charging unit based on electric power supplied from the secondary battery, in a state where a consumption power of the printer is approximately constant.

In addition, Nakamiya is not seen to cure the deficiencies of Toya and Horigome. Accordingly, independent Claims 5 and 10 are believed to be in condition for allowance, and Applicant respectfully requests the same.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa,
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our below-listed address.

Respectfully submitted,

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